SOUTH DAKOTA STATEWIDE FISHERIES SURVEY

2102-F21-R-45

Name: New Wall Lake **County:** Pennington

Legal description: T 1 S, R 15 E; Sec 1-2, 11-12
Location from nearest town: 1.5 mi. S and 1.5 mi. W of Wall, SD
Dates of present survey: September 25, 2012
Date last surveyed: September 21, 2011
Management classification: Warm water permanent

Primary Species: (game and forage)	Secondary and other species:
1. Largemouth Bass	1. White Crappie
2. Bluegill	2. Golden Shiner
3. Black Crappie	3. White Sucker
4. Yellow Perch	4. Northern Pike
5.	5. Walleye

PHYSICAL CHARACTERISTICS

Surface Area: 42 acres **Watershed:** 3,780 acres
Maximum depth: 24 feet **Mean depth:** 12.9 feet
Lake elevation at survey (from known benchmark): Three feet below full-pool

Ownership of lake and adjacent lakeshore property:

New Wall Dam was built by the South Dakota Department of Game, Fish and Parks, which maintains the lake, dam and surrounding property.

Fishing Access

Fishing access on New Wall Lake is good with a newer boat ramp and boat dock. Shore anglers will find several areas that can be driven to, near the water edges for good access. Emergent vegetation can be a problem in late summer for shore access and submerged vegetation in late summer can also limit most fishing to deeper areas accessed by boat or other small watercraft.

Observations of Water Quality and Aquatic Vegetation

Emergent vegetation consists of mostly cattails and surrounds most of the lake. Submergent vegetation is plentiful in the shallow, upper ends of the lake in water under six feet.

Observations on conditions of structures (i.e. spillway, boat ramps and docks, roads, etc)

All structures associated with New Wall Dam are in good condition. The boat ramp is situated at the bottom of a steep hill and needs periodic maintenance.

MANAGEMENT OBJECTIVES

Objective 1. Maintain a Largemouth Bass population with a minimum nighttime electrofishing CPUE for stock-length fish of 20, PSD range greater than 50, a PSD-P $\geq$ 30.

BIOLOGICAL DATA

Nighttime boat electrofishing was conducted at New Wall on September 25, 2012, with a water temp of 62^{o}F. Three sights were completed during the survey. Only 26 minutes of electrofishing was completed on this survey due to large amounts of green algae on the south side of the lake. Only the north side was sampled due to visibility concerns. Low water also decreased the amount of area suitable for sampling. The sample on Sept 25 yielded 125 Largemouth Bass. Only Largemouth Bass were collected during sampling.

Table 1. Year, number captured (N), pedal time,), catch per unit effort (CPUE), catch per net night of stock-length fish (CPUE-S), proportional stock density (PSD) , proportional stock density of preferred-length fish (PSD-P) and relative weight for fish stock length and greater (*Wr*≥S) for Largemouth Bass collected by electrofishing in New Wall Dam, Pennington County, South Dakota, 2005-2012. Total catch (N), pedal time (seconds), CPUE values with 80% confidence intervals in parentheses. PSD, PSD-P, and *Wr*≥*S* with 90% confidence intervals in parentheses.

Year	N	Pedal Time (sec)	CPUE	CPUE-S	PSD	PSD-P	*Wr*≥S
2005	45	3,484	45.9 (15.8)	43.7 (15.3)	79 (11)	28(12)	103.0 (1.4)
2006	16	1,700	34.8 (22.0)	13.2 (8.6)	50 (45)	17 (33)	106.1 (5.1)
2007	68	1,719	146.3 (79.6)	23.6 (16.8)	55 (28)	9 (17)	103.3 (5.0)
2008	43	3,000	51.6 (11.1)	42.0 (12.7)	49 (15)	26 (13)	103.3 (2.0)
2010	92	3,283	103.5 (21.8)	76.4 (17.7)	18 (8)	10 (7)	105.1 (0.2)
2011	77	3,600	77.0 (18.8)	43.0 (20.4)	33 (13)	12 (9)	102.3 (0.4)
2012	125	1,597	292.6 (167.7)	247.9 (142.1)	69 (8)	9 (5)	113.1 (0.9)

Largemouth Bass

In 2012, Largemouth Bass catch per unit effort (CPUE) improved to 292.6 fish per hour from 77 in 2011 (Table 1). Size structure also improved, with a PSD of 69 and a PSD-P of 9. Fish condition was the highest recorded in recent history with a mean relative weight for stock length and larger fish (*Wr*≥S) of 113.1. The length frequency histogram indicates recruitment and a balanced population (Figure 1). These numbers are exceeding management objectives except for percentage of fish over preferred length (380 mm; 15 in).

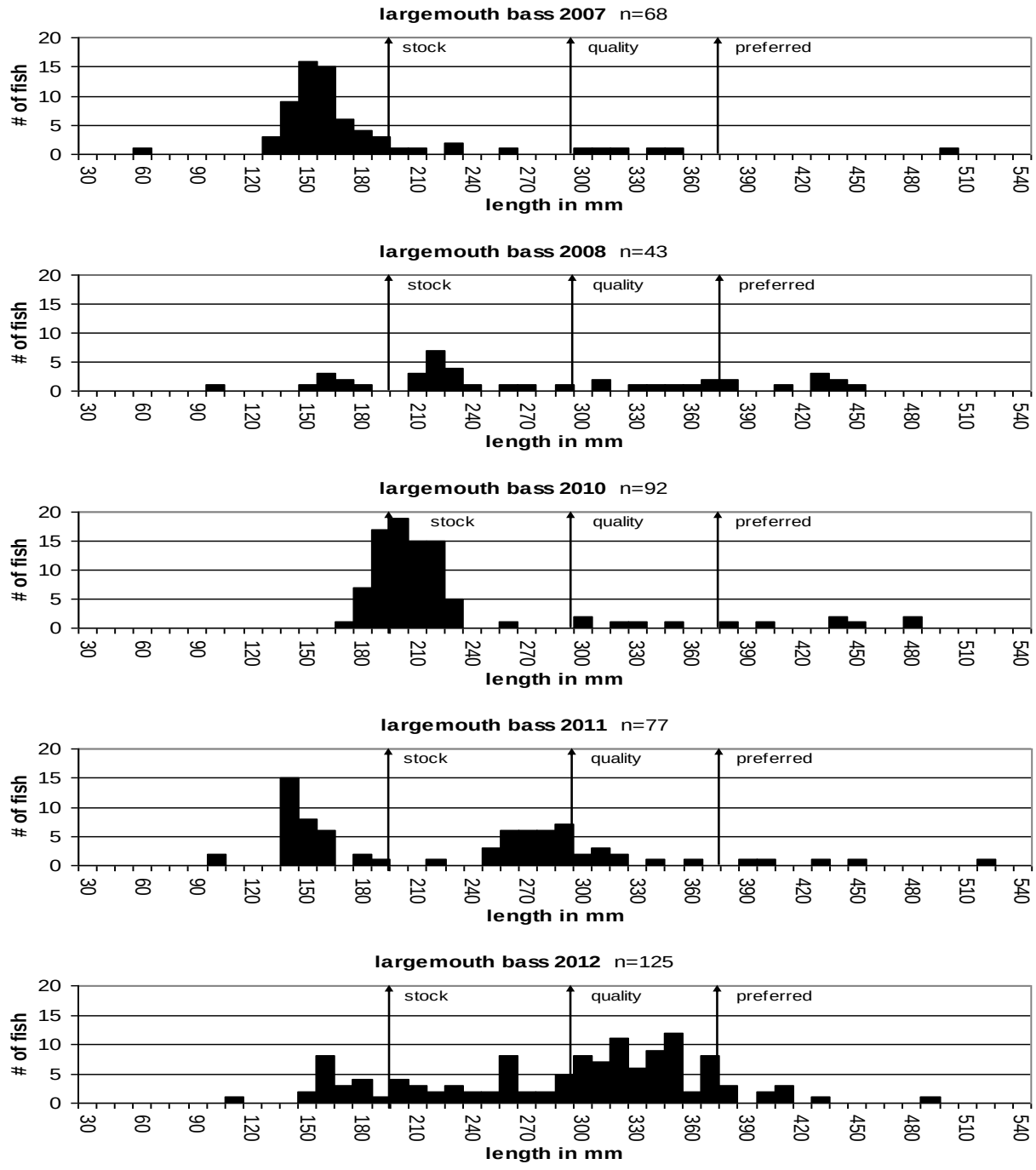

Figure 3. Length frequency histograms of Largemouth Bass collected by nighttime boat electrofishing in New Wall Dam, Pennington County, South Dakota, 2007-2008, 2010-2012.

RECOMMENDATIONS

1. Continue to conduct lake surveys in New Wall Dam on an as needed basis. Conduct nighttime boat electrofishing surveys annually to assess the Largemouth Bass population and effectiveness of the special regulation.

APPENDIX

Appendix A. Stocking history, including year, number, species and size of fish stocked into New Wall Lake, Pennington County, South Dakota, 1994-2009.

Year	Number	Species	Size
1994	4,300	Largemouth Bass	Fingerling
1995	400	Walleye	Fingerling
1996	4,300	Largemouth Bass	Fingerling
	1,200	Walleye	Fingerling
1997	4,300	Largemouth Bass	Fingerling
1998	4,300	Largemouth Bass	Fingerling
1999	3,000	Largemouth Bass	Fingerling
2001	18	Black Crappie	Adult
	50	Bluegill	Adult
2007	150	Largemouth Bass	Adult
2009	3700	Largemouth Bass	Fingerling